Solicitation No. VA-101-10-RP-0130
Project No. 646PM2500

Department of Veterans Affairs

Specifications

For: CARES CONSOLIDATION PROJECTS
RESEARCH OFFICE BUILDING – BUILDING 30

At: VA Pittsburgh Healthcare System
University Drive Division
Pittsburgh, PA 15240-1005

Issue: August 18, 2010

Amendment	
No.	**Date**

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Volume 2 OF 2
SPECIFICATIONS
Divisions 10 – 34

Set #_____

SECTION 10 11 16
MARKERBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies markerboards (whiteboards and glassboards) and related items.

B. Markerboards shall be factory assembled.

C. Assemble markerboards into a single unit.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.

B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.

C. Color of aluminum anodic coating markerboard writing surface: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 QUALITY ASSURANCE

A. Markerboards shall be the products of one manufacturer.

B. Product Certifications: Provide GREENGUARD Indoor Air Quality Certified for markerboards.

1.4 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

B. Shop Drawings: Identifying all parts by name and material and showing design, construction, installation, anchorage and relation to adjacent construction.

C. Manufacturer's Literature and Data:

1. Markerboard.

D. Samples:

1. Markerboard writing surface, 300 by 300 mm (six by six inches), each color, mounted on backing.
2. Integrally colored anodized aluminum, 300 mm (six inch) length.
3. Each accessory (after approval, may be used in the work).

E. LEED Submittals:

1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
   a. Include statement indicating costs for each product containing recycled content.

2. Credit EQ 4.1: Manufacturer's product data for installation adhesives and sealants applied on site and within the vapor barrier, including printed statement of VOC content (in g/L).
3. Credit EQ 4.4:
   a. Composite wood manufacturer's product data for each composite wood product used indicating that the bonding agent contains no urea formaldehyde.
   b. Adhesive manufacturer's product data for each adhesive used indicating that the adhesive contains no urea formaldehyde.

1.5 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM):
B221/B221M-06.....Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes

C. Porcelain Enamel Institute (PEI):
PEI-1002 .....Manual and Performance Specifications for Porcelain Enamel Writing Surfaces

D. GREENGUARD Environmental Institute (GEI):
.....GREENGUARD Indoor Air Quality Certified

1.6 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Surfaces lose original writing and erasing qualities.
      b. Surfaces become slick or shiny.
      c. Surfaces exhibit crazing, cracking, or flaking.
   2. Warranty Period: 50 years from date of Substantial Completion.

B. Provide two year warranty for glassboards against discoloration due to cleaning or staining.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-Of-Design Product: Subject to compliance with requirements, provide EISYS/BORKS VIP SERIES, or approved equivalent.

B. Products:
   1. Whiteboard.
   2. Glassboard: Unframed, gray background.

3. Glassboard: Framed, gray background.

C. LEED Submittals:

1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.
2. Provide installation adhesives, sealants, paints, and coatings applied on site and within the vapor barrier, that comply with VOC limits outlined in Division 01 Section "Indoor Air Quality Requirements."
3. Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin

2.2 WHITEBOARDS

A. Whiteboards: Dry-wipe whiteboard for marker pens and magnets.

1. Face Sheet: Scratch-resistant vitreous enamel steel fused twice at 800 degrees C.
2. Core: 10 mm particleboard laminated to face sheet.
3. Backing: Aluminum foil, laminated to core.
4. Sizes: As indicated on Drawings.
5. Frame Profile: Manufacturer's standard.
6. Top and Bottom Frames: Natural anodized extruded aluminum 2mm gage, 60 mm high. Face plate shall be 1 mm less than rail length. Rail shall be punched to accept wall anchors according to local codes.
   a. Sliding Track: Top frame shall have 1 sliding track for hanging flexible board, flip charts or projection boards.
   b. Side profiles: Natural anodized extruded aluminum, 2 mm gage, 6 mm wide, complete with mounting sets for concealed wall attachment.
7. Accessories: Provide one accessory pack for each markerboard. Include 4 dry markers, 1 penholder, 1 felt eraser, 1 whiteboard cleaner, 1 cloth and 12 magnets.
8. Color: White.

2.3 GLASSBOARDS-UNFRAMED

A. Glassboards: Dry-wipe glassboards for dry erase markers.

1. Face Sheet: Safety glass toughened with matt cut glass edges.
2. Range:
   a. Thickness: 6 mm.
   b. Maximum dimensions: 2000 mm x 1200 mm.
3. Backing: Gray enameled serigraphed backing.
4. Manufacturing Sizes: As indicated on Drawings.
5. Manufacturing Tolerances:
   a. Deflection tolerance: 2 mm/2m.

b. Tolerance on sizes: +0-2mm.
c. Max length/width ratio 1/10.
d. Minimum dimensions (mm) 900 mm x 600 mm.

6. Frame Profile: Frameless board.
7. Accessories: Provide an accessory pack for each glassboard. Includes 4 dry markers, 1 eraser, cleaner & cloth.
   a. Penshelf Acrylic: 12 inches wide.
   b. Penshelf Aluminum: Up to the full width of unframed or framed glassboards.
8. Color: Gray.
   a. A color difference of E*=1.5 (C.I.E. La*b) measured on the surface of the glass is acceptable between 2 panes with the same color enamel.

2.4 GLASSBOARDS-FRAMED

A. Glassboards: Dry-wipe glassboards for dry erase markers.
   1. Face Sheet: Safety glass toughened with matt cut glass edges.
   2. Range:
      a. Thickness: 6 mm.
      b. Framed Glass Thickness: 20 mm.
      c. Maximum dimensions: 1200 mm x 1305 mm.
   3. Backing: Gray enameled serigraphed backing.
   4. Manufacturing Sizes: As indicated on Drawings.
   5. Manufacturing Tolerances:
      a. Deflection tolerance: 2 mm/2m.
      b. Tolerance on sizes: +0-2mm.
      c. Max length/width ratio 1/10.
      d. Minimum dimensions (mm) 1200 mm x 1305 mm.
   6. Frame Profile: Matte anodized aluminum frame. The top rail features 1 sliding track for hanging component boards.
   7. Accessories: Provide an accessory pack for each glassboard. Includes 4 dry markers, 1 eraser, cleaner & cloth.
      a. Penshelf Acrylic: 12 inches wide.
      b. Penshelf Aluminum: Up to the full width of unframed or framed glassboards.
   8. Color: Gray.
      a. A color difference of E*=1.5 (C.I.E. La*b) measured on the surface of the glass is acceptable between 2 panes with the same color enamel.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Install units in accordance with the manufacturer's installation instructions, use concealed fasteners.

B. Inspect surfaces and related construction to receive units. Partitions shall have reinforcing to receive fasteners. Verify type and placement of reinforcement.

C. Do not proceed with the installation until reinforcement is in place and surfaces are flat.

D. Shop assemble units as specified by the manufacturer.

3.2 INSTALLATION OF MARKERBOARDS

A. Attach concealed clips, hangers, and grounds to wall surfaces and to markerboards with fasteners at not more than 406 mm (16 inches) o.c. Secure both top and bottom of markerboards to walls.

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SECTION 10 11 23
TACKBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies tackboards and related items.

B. Tackboards shall be factory assembled.

C. Where shown, assemble tackboards into a single unit.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.

B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.

C. Color of aluminum anodic coating tackboard: Section 09 06 00, SCHEDULE FOR FINISHES

1.3 QUALITY ASSURANCE

A. Tackboards shall be the products of one manufacturer.

1.4 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

B. Shop Drawings: Identifying all parts by name and material and showing design, construction, installation, anchorage and relation to adjacent construction.

C. Manufacturer's Literature and Data:

1. Tackboards.

D. Samples:

1. Tackboard, 300 by 300 mm (six by six inches), each color, mounted on backing.
2. Integrally colored anodized aluminum, 300 mm (six inch) length.
3. Each accessory (after approval, may be used in the work).

E. LEED Submittals:

1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
   a. Include statement indicating costs for each product containing recycled content.
2. Credit EQ 4.1: Manufacturer’s product data for installation adhesives and sealants applied on site and within the vapor barrier, including printed statement of VOC content (in g/L).
3. Credit EQ 4.4:

a. Composite wood manufacturer's product data for each composite wood product used indicating that the bonding agent contains no urea formaldehyde.
b. Adhesive manufacturer's product data for each adhesive used indicating that the adhesive contains no urea formaldehyde

1.5 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
B. National Association of Architectural Metal Manufacturers (NAAMM):
AMP 500 Series.....Metal Finishes Manual
AMP 501.....Finishes for Aluminum
C. American National Standards (ANSI):
D. American Society for Testing and Materials (ASTM):
B221/B221M-06.....Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Shapes and Tubes
E. Composite Panel Association (CPA):
A208.1-06.....Particleboard
A135.4-04.....Basic Hardboard

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-Of-Design Product: Subject to compliance with requirements, provide EISYS/BORKS VIP SERIES, or approved equivalent.
B. LEED Requirements:
1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.
2. Provide installation adhesives, sealants, paints, and coatings applied on site and within the vapor barrier, that comply with VOC limits outlined in Division 01 Section "Indoor Air Quality Requirements."
3. Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin

2.2 TACKBOARDS

A. Tackboards shall consist of tackboard, snap on aluminum frame, grounds and other items specified and shown.

2.3 FABRICATION

A. Materials:
1. Aluminum, extruded: ASTM B221.
2. Fabric: Refer to Section 09 06 00, SCHEDULE OF FINISHES.
3. Backing: Hardboard, AHBA A135.4 or particleboard, CPA A208.1.

B. Components:
   1. Tackboard: Cork face, 6 mm (1/4-inch) thick factory laminated to a hardboard or particleboard backing of thickness required.
   2. Frames (Trim): Extruded aluminum, 1.5 mm (0.060-inch) thick, snap-on type, approximate face width 44 mm (1-3/4 inch), depth and configuration as required to return to wall and engage clips.
   3. Display Rail: Snap-on sliding track type, same materials as frames, approximate face width one inch with 6 mm (1/4-inch) thick cork insert.
   4. Grounds: Continuous zinc-coated (galvanized) steel or extruded aluminum members designed to support the tackboard and clips for snap-on frames, and display rail
   5. Clips: Manufacturer's standard as required to support frame and display rail,

C. Tackboards 3660 mm (12 feet) or less in length shall be in one piece. Larger units shall have one joint at center. Joints shall have metal spline, with faces in same plane and edges shall touch along entire length.

D. Finish exposed aluminum surfaces as follows:
   1. AA 45 chemically etched medium matte, with clear anodic coating Class II Architectural, 0.4 mils thick (AA-M12C22A32).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Install units in accordance with the manufacturer's installation instructions, use concealed fasteners.

B. Inspect surfaces and related construction to receive units. Partitions shall have reinforcing to receive fasteners. Verify type and placement of reinforcement.

C. Do not proceed with the installation until reinforcement is in place and surfaces are flat.

D. Assemble units as specified by the manufacturer.

3.2 INSTALLATION OF TACKBOARD:

A. Mount tackboards with adhesive and blocking pads spaced 16 inches on center each way.

B. Grounds designed to receive clips for snap-on trim shall be continuous and be secured 300 mm (12 inches) on center. Space clips 300 mm (12 inches) on center

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SECTION 10 14 00
SIGNAGE

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies interior signage for room numbers, directional signs, code required signs, telephone identification signs as indicated on Drawings.

B. Temporary interior signs.

C. This section also specifies exterior medical center identification signs, building identification signs, parking and traffic signs.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.

B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.

C. Electrical: Related Electrical Specification Sections.

D. Lighted EXIT signs for egress purposes are specified under Division 26, ELECTRICAL.

E. Color Finish: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 MANUFACTURER'S QUALIFICATIONS

A. Sign manufacturer shall provide evidence that they regularly and presently manufacture signs similar to those specified in this section as one of their principal products.

1.4 SUBMITTALS

A. Submit in accordance with Section 01 33 00, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

B. Samples: Sign panels and frames, with letters and symbols, each type. Submit 2 sets. One set of samples will be retained by Resident Engineer, other returned to Contractor.

1. Sign Panel, 200 mm x 250 mm (8 inches x 10 inches), with letters.
2. Color samples of each color, 150 mm x 150 mm (6 inches x 6 inches. Show anticipated range of color and texture.
3. Sample of typeface, arrow and symbols in a typical full size layout.

C. Manufacturer's Literature:

1. Showing the methods and procedures proposed for the concealed anchorage of the signage system to each surface type.
2. Manufacturer’s printed specifications, anchorage details, installation and maintenance instructions.

D. Samples: Sign location plan, showing location, type and total number of signs required.

E. Shop Drawings: Scaled for manufacture and fabrication of sign types. Identify materials, show joints, welds, anchorage, accessory items, mounting and finishes.

F. Full size layout patterns for dimensional letters.

G. LEED Submittals:

1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
   a. Include statement indicating costs for each product containing recycled content.
2. Credits MR 5.1 & 5.2: For products manufactured within 500 miles of project site *and* whose raw materials are extracted, harvested or recovered, within 500 miles of the project site, documentation indicating the location and distance of material manufacturer and point of extraction, harvest, or recovery for each raw material from the Project site.
   a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

1.5 DELIVERY AND STORAGE

A. Deliver materials to job in manufacturer's original sealed containers with brand name marked thereon. Protect materials from damage.

B. Package to prevent damage or deterioration during shipment, handling, storage and installation. Maintain protective covering in place and in good repair until removal is necessary.

C. Deliver signs only when the site and mounting services are ready for installation work to proceed.

D. Store products in dry condition inside enclosed facilities.

1.6 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM):

B209-07.....Aluminum and Aluminum-Alloy Sheet and Plate
B221-06.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and tubes.

C. Federal Specifications (Fed Spec):

MIL-PRF-8184F.....Plastic Sheet, Acrylic, Modified.
MIL-P-46144C.....Plastic Sheet, Polycarbonate

1.7 MINIMUM SIGN REQUIREMENTS

A. Permanent Rooms and Spaces:

1. Tactile and Braille Characters, raised minimum 0.793 mm (1/32 in). Characters shall be accompanied by Grade 2 Braille.
2. Type Styles: Characters shall be uppercase, Helvetica Medium, Helvetica Medium Condensed and Helvetica Regular.
3. Character Height: Minimum 16 mm (5/8 in) high, Maximum 50 mm (2 in).
4. Symbols (Pictograms): Equivalent written description shall be placed directly below symbol, outside of symbol's background field. Border dimensions of symbol background shall be minimum 150 mm (6 in) high.
5. Finish and Contrast: Characters and background shall be eggshell, matte or other non-glare finish with adequate contrast with background.
6. Mounting Location and Height: As shown. Mounted on wall adjacent to the latch side of the door and to avoid door swing and protruding objects.

1.8 COLORS AND FINISHES:

A. Section 09 06 00, SCHEDULE FOR FINSIHES.

1.9 SIGNAGE SCHEDULE

A. Provide signage schedule for review by VA Resident Engineer prior to fabrication.

PART 2 - PRODUCTS

2.1 GENERAL

A. Signs of type, size and design shown on the drawings and as specified.

B. Signs complete with lettering, framing and related components for a complete installation.

C. Provide graphics items as completed units produced by a single manufacturer, including necessary mounting accessories, fittings and fastenings.

D. Do not scale drawings for dimensions. Contractor to verify and be responsible for all dimensions and conditions shown by these drawings. Resident Engineer to be notified of any discrepancy in drawing, in field directions or conditions, and/or of any changes required for all such construction details.

E. The Sign Contractor, by commencing work of this section, assumes overall responsibility, as part of his warranty of work, to assure that assemblies, components and parts shown or required within the work of the section, comply with the Contract Documents. The Contractor shall further warrant: That all components, specified or required to satisfactorily complete the installation are compatible with each other and with conditions of installations.

2.2 PRODUCTS

A. LEED Requirements:
   1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.

B. Aluminum:
   1. Sheet and Plate: ASTM B209.
   2. Extrusions and Tubing: ASTM B221.

C. Cast Acrylic Sheet: MIL-PRF-8184F; Type II, class 1, Water white non-glare optically clear. Matt finish water white clear acrylic shall not be acceptable.

D. Polycarbonate: MIL-P-46144C; Type I, class 1.

E. Vinyl: 0.1 mm thick machine cut, having a pressure sensitive adhesive and integral colors.

F. Electrical Signs:
   1. General: Furnish and install all lighting, electrical components, fixtures and lamps ready for use in accordance with the sign type drawings, details and specifications.
   2. Refer to Electrical Specifications Section, Division 26, ELECTRICAL, to verify line voltages for sign locations that require electrical signs.
   3. Quality Control: Installed electrical components and sign installations are to bear the label and certification of Underwriter's Laboratories, Inc., and are to comply with National Electrical Code as well as applicable federal, state and local codes for installation techniques, fabrication methods and general product safety.
   4. Ballast and Lighting Fixtures: See Electrical Specifications.

G. Concrete Post Footings: See Section 03 30 00, CAST-IN-PLACE CONCRETE, Cast-in-place Concrete.

H. Steel: See Section 05 12 00, STRUCTURAL STEEL FRAMING.

2.3 SIGN STANDARDS

A. Topography:
   1. Type Style: Helvetica Medium and Helvetica Medium Condensed. Initial caps or all caps as indicated in Sign Message Schedule.
   2. Arrow: See graphic standards in drawings.
   3. Letter spacing: See graphic standards on drawings.
   4. Letter spacing: See graphic standards on drawings.
   5. All text, arrows, and symbols to be provided in size, colors, typefaces and letter spacing shown. Text shall be a true, clean, accurate reproduction of typeface(s) shown. Text shown in drawings

are for layout purposes only; final text for signs is listed in Sign Message Schedule.

B. Project Colors and Finishes: See Section 09 06 00, SCHEDULE FOR FINISHES.

2.4 SIGN TYPES

A. General:

1. The interior sign system is comprised of sign type families that are identified by a letter and number which identify a particular group of signs. An additional number identifies a specific type of sign within that family.
   a. IN indicates a component construction based sign.
2. The exterior sign system shall be comprised of sign types families that are identified by a letter and number which identify a particular group of signs. An additional number identifies a specific type of sign within that family.
   a. EI designation indicates exterior internally illuminated sign.
   b. EN designation indicates exterior non-illuminated sign.

B. Interchangeable Component System:

1. Sign Type Families: 03, 04, 15, and 16.
2. Interior sign system capable of being arranged in a variety of configurations with a minimum of attachments, devices and connectors.
   a. Interchangeable nature of the system shall allow for changes of graphic components of the installed sign, without changing sign in its entirety.
   b. Component Sign System is comprised of the following primary components:
      1) Rail Back utilizing horizontal rails, spaced to allow for uniform, modular sizing of sign types.
      2) Rail Insert mounted to back of Copy Panels to allow for attachment to Rail Back.
      3) Copy Panels, made of a variety of materials to allow for different graphic needs.
      4) End Caps which interlock to Rail Back to enclose and secure changeable Copy Panels.
      5) Joiners and Accent Joiners connect separate Rail Backs together.
      6) Top Accent Bars which provide decorative trim cap that encloses the top of sign or can connect the sign to a Type 03 Room Number Sign.

c. Rail Back, Rail Insert and End Caps in anodized extruded aluminum to allow for tight tolerances and consistent quality of fit and finish.
d. Signs in system shall be convertible in the field to allow for enlargement from one size to another in height and width through use of Joiners or Accent Joiners, which connect Rail Back panels together blindly, providing a butt joint between Copy Panels. Accent Joiners shall connect Rail Backs together with a visible 3 mm (1/8") horizontal rib, flush to the adjacent copy insert surfaces.
e. Sign configurations shall vary in width from 225 mm (9 inches) to 2050 mm (80 inches), and have height dimensions of 50 mm (2 inches), 75 mm (3 inches), 150 mm (6 inches), 225 mm (9 inches) and 300 mm (12 inches). Height shall be increased beyond 300 mm (12 inches), by repeating height module in full or in part.

3. Rail Back functions as internal structural member of sign using 6063T5 extruded aluminum and anodized black.
   a. Shall accept an extruded aluminum or plastic insert on one sign or on both sides, depending upon sign type.
   b. Shall be convertible in field to allow for connection to other Rail Back panels, so that additive changes can be made to sign unit.
   c. Rail shall allow for a variety of mounting devices including wall mounting for screw-on applications, using pressure sensitive tape, freestanding mount, ceiling mount and other mounting devices as needed.
4. Rail Insert functions as a mounting device for Copy Panels on to the Rail Back. The Rail Insert mounts to the back of the Copy Panel with adhesive suitable for use with the particular copy insert material.
   a. Shall allow Copy Panels to slide or snap into the horizontal Rail Back for ease of changeability.
   b. Shall mount to the back of the Copy Panel with adhesive suitable for use with particular Copy Panel material.
5. Copy Panels shall accept various forms of copy and graphics, and attaches to the Rail Back with the Rail Insert. Copy Panels shall be either ABS plastic with integral color or an acrylic lacquer finish; photo polymer; or, acrylic.
   a. Interchangeable by sliding horizontally from either side of sign, and to other signs in system of equal or greater width or height.
   b. Cleanable without use of special chemicals or cleaning solutions.

c. Copy Insert Materials.

1) ABS Inserts - 2.3 mm (.090 inches) extruded ABS plastic core with .07 mm (.003 inches) acrylic cap bonded during extrusion/texturing process. Pressure bonded to extruded Rail Insert using adhesive. Background color is either integral or painted in acrylic lacquer. ABS inserts finished in a chromium industries #HM335RA texture pattern to prevent glare.
2) Photo polymer Inserts - 3 mm (.125 inches) phenolic photo polymer with raised copy etched to 2.3 mm (.0937 inches), bonded to an ABS plastic or extruded aluminum insert with adhesive. Background color is painted in acrylic enamel.
3) Changeable Paper/ Insert Holder - Extruded insert holder with integral Rail Insert for connection with structural back panel in 6063T5 aluminum with a black anodized finish. Inserts into holder are paper with a clear 0.7 mm (.030 inches) textured cover. Background color is painted in acrylic lacquer.
4) Acrylic - 2 mm (.080 inches) non-glare acrylic. Pressure bonded to extruded Rail Insert using adhesive. Background color is painted in acrylic lacquer or acrylic enamel.
5) Extruded 6063T5 aluminum with a black anodized finish Insert Holder with integral Rail Insert for connection with Structural Back Panel to hold a 0.7 mm (.030 inches) textured polycarbonate insert and a Sliding Tile which mounts in the Inset Holder and slides horizontally.
6) End Caps - Extruded using 6063T5 aluminum with a black anodized. End Caps interlock with Rail Back with clips to form an integral unit, enclosing and securing the changeable Copy Panels, without requiring tools for assembly.
   a) Shall be interchangeable to either end of sign and to other signs in the system of equal height.
   b) Mechanical fasteners can be added to the End Caps that will secure it to Rail Back to make sign tamper resistant.
7) Joiners - Extruded using 6063T5 aluminum with a black anodized finish. Rail Joiners connect Rail Backs together blindly, providing a butt joint between Copy Inserts.
8) Accent Joiners - Extruded using 6063T5 aluminum with a mirror polished finish. Joiner shall connect Rail Backs together with a visible 3 mm (.125 inches) horizontal rib, flush to the adjacent Copy Panel surfaces.

9) Top Accent Rail - Extruded using 6063T5 aluminum with a mirror polished finish. Rail shall provide 3 mm (.125 inches) high decorative trim cap, which butts flush to adjacent Copy Panel and encloses top of Rail Back and Copy Panel.

10) Typography

a) Vinyl First Surface Copy (non-tactile) - Applied Vinyl copy.

b) Subsurface Copy Inserts - Textured 1 mm (.030 inches) clear polycarbonate face with subsurface applied Vinyl copy. Face shall be back sprayed with paint and laminated to an extruded aluminum carrier insert.

c) Integral Tactile Copy Inserts - phenolic photo polymer etched with 2.3 mm (.0937 inches) raised copy.

d) Silk-screened First Surface Copy (non-tactile) - Injection molded or extruded ABS plastic or aluminum insert with first surface applied enamel silk-screened copy.

C. Sign Type Family 01, 08 and 09.

1. All text and graphics are to be first surface silk-screened.
2. IN-01.1: Preparation of artwork for reproduction of "fire and emergency evacuation maps" is by manufacturer.

D. Sign Type Families 03:

1. Tactile sign is to be made from a material that provides for letters, numbers and Braille to be integral with sign plaque material such as: photosensitive polyamide resin, etched metal, sandblasted phenolic or embossed material. Do not apply letters, numbers and Braille with adhesive.
2. Numbers, letters and Braille to be raised 0.793 mm (.0312 inches) from the background surface. The draft of the letters, numbers and Braille to be tapered, vertical and clean.
3. Braille dots are to conform with standard dimensions for literary Braille; (a) Dot base diameter: 1.5 mm (.059 inches) (b) Inter-dot spacing: 2.3 mm (.090 inches) (c) Horizontal separation between cells: 6.0 mm (.241 inches) (d) Vertical separation between cells: 10.0 mm (.395 inches)
4. Entire assembly is painted in specified color. After painting, apply white or other specified color to surface of the numbers and letters. Entire sign is to have a protective clear coat sealant applied.
5. Complete sign is to have an eggshell finish (11 to 19 degree on a 60 degree glossmeter).

E. Sign Type Family 07:
   1. A11 text and graphics are to be first surface applied vinyl letters except for under sliding tile.
   2. Protect text, which is covered by sliding tile, so tile does not wear away letters.

F. Sign Type Family 18:
   1. A11 text and graphics are to be first surface applied stylus cut vinyl letters.
   2. Provide in specified typeface, color and spacing, with each message or message group on a single quick release backing sheet.

G. Temporary Interior Signs:
   1. Fabricated from 50 kg (110 pound) matte finished white paper cut to 100 mm (4 inch) wide by 300 mm (12 inch) long. Punched 3 mm (.125 inch) hole with edge of hole spaced 13 mm (.5 inch) in from edge and centered on 100 mm (4 inch) side. Reinforce hole on both sides with suitable material that prevents tie form pulling through hole. Ties are steel wire 0.3 mm (0.120 inch) thick attached to tag with twist leaving 150 mm (6 inch) long free ends.
   2. Mark architectural room number on sign, with broad felt marker in clearly legible numbers or letters that identify room, corridor or space as shown on floor plans.
   3. Install temporary signs to all rooms that have a room, corridor or space number. Attach to door frame, door knob or door pull.
      a. Doors that do not require signs are: corridor doors in corridor with same number, folding doors or partitions, toilet doors, bathroom doors within and between rooms, closet doors within rooms, communicating doors in partitions between rooms with corridor entrance doors.
      b. Replace and missing damaged or illegible signs.

H. E1-01--.03 Illuminated Exterior Sign (EXTERIOR SIGN – ALTERNATE #5)
   1. Size: Sign Face; 1219 mm H x 2438 mm W (4’-0” H x 8’-0” W).
   2. Description & Use:
      a. Internally illuminated small horizontal free standing monument sign for identifying Research Office Building.
      b. Refer to Section 09 06 00, SCHEDULE FOR FINISHES for finishes and colors. Provide concrete foundation.
      c. Message Configuration: Refer to separate attachment to Section 10 14 00, SIGNAGE.
   3. Graphic Process: Illuminated routed out copy backed with white translucent acrylic.

a. Colors: Refer to separate attachment to Section 10 14 00, SIGNAGE for text, background and accent.

4. Recommendations:

a. Position sign so drivers have a clear, unobstructed view of the sign. Keep landscaping around the sign low and position sprinklers so they project away from the sign. Refer to site plan for location.

b. On-off illumination of sign can be controlled through the use of a timer, manual or photoelectric switch. Consult with sign fabricator at time of order for appropriate method to use.

I. Parking and Traffic Signs: Refer to site drawings for sign types and locations.

2.5 FABRICATION

A. Design components to allow for expansion and contraction for a minimum material temperature range of 56 °C (100 °F), without causing buckling, excessive opening of joints or over stressing of adhesives, welds and fasteners.

B. Form work to required shapes and sizes, with true curve lines and angles. Provide necessary rebates, lugs and brackets for assembly of units. Use concealed fasteners whenever and wherever possible.

C. Shop fabricate so far as practicable. Joints fastened flush to conceal reinforcement, or welded where thickness or section permits.

D. Contact surfaces of connected members be true. Assembled so joints will be tight and practically unnoticeable, without use of filling compound.

E. Signs shall have fine, even texture and be flat and sound. Lines and miters sharp, arises unbroken, profiles accurate and ornament true to pattern. Plane surfaces be smooth flat and without oil-canning, free of rack and twist. Maximum variation from plane of surface plus or minus 0.3 mm (0.015 inches). Restore texture to filed or cut areas.

F. Level or straighten wrought work. Members shall have sharp lines and angles and smooth su1rfaces.

G. Extruded members to be free from extrusion marks. Square turns and corners sharp, curves true.

H. Drill holes for bolts and screws. Conceal fastenings where possible. Exposed ends and edges mill smooth, with corners slightly rounded. Form joints exposed to weather to exclude water.

I. Finish hollow signs with matching material on all faces, tops, bottoms and ends. Edge joints tightly mitered to give appearance of solid material.

J. All painted surfaces properly primed. Finish coating of paint to have complete coverage with no light or thin applications allowing substrate or primer to show. Finished surface smooth, free of scratches, gouges, drips, bubbles, thickness variations, foreign matter and other imperfections.

K. Movable parts, including hardware, are be cleaned and adjusted to operate as designed without binding of deformation of members. Doors and covers centered in opening or frame. All contact surfaces fit tight and even without forcing or warping components.

L. Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.

M. No signs are to be manufactured until final sign message schedule and location review has been completed by the Resident Engineer & forwarded to contractor.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Protect products against damage during field handling and installation. Protect adjacent existing and newly placed construction, landscaping and finishes as necessary to prevent damage during installation. Paint and touch up any exposed fasteners and connecting hardware to match color and finish of surrounding surface.

B. Mount signs in proper alignment, level and plumb according to the sign location plan and the dimensions given on elevation and sign location drawings. Where otherwise not dimensioned, signs shall be installed where best suited to provide a consistent appearance throughout the project. When exact position, angle, height or location is in doubt, contact Resident Engineer for clarification.

C. Contractor shall be responsible for all signs that are damaged, lost or stolen while materials are on the job site and up until the completion and final acceptance of the job.

D. Remove or correct signs or installation work Resident Engineer determines as unsafe or as an unsafe condition.

E. At completion of sign installation, clean exposed sign surfaces. Clean and repair any adjoining surfaces and landscaping that became soiled or damaged as a result of installation of signs.

F. Locate signs as shown on the Signage Plans.

G. Certain signs may be installed on glass. A blank glass back up is required to be placed on opposite side of glass exactly behind sign

being installed. This blank glass back up is to be the same size as sign being installed.

H. Contractor will be responsible for verifying that behind each sign location there are no utility lines that will be affected by installation of signs. Any damage during installation of signs to utilities will be the sole responsibility of the Contractor to correct and repair.

I. Furnish inserts and anchoring devices which must be set in concrete or other material for installation of signs. Provide setting drawings, templates, instructions and directions for installation of anchorage devices which may involve other trades.

- - - END - - -

VA PITTSBURGH HEALTHCARE SYSTEM
UNIVERISTY DRIVE DIVISION

EXTERIOR SIGN DESIGN DEVELOPMENT PROGRAM
RESEARCH OFFICE BUILDING

01.28.10

ASTORINO
Architecture Engineering Interior Design Design/Build

The VAPHS exterior sign system has been designed using a selected group of common graphic elements, materials, and finishes to accomplish a visual standard.

The graphic elements include the VAPHS signature, three versions (weight and style) of the Futura typeface and specific custom symbols. Visual standards include: color and finishes, and letter size in relation to viewing distance.

These standards become the component building blocks around which signs are configured. They have been produced to provide a functional consistency in signs for the VAPHS campus.

This booklet has been developed as a Program Guide recognizing the responsibility to provide an appropriate exterior Environmental Graphics Design Program at the UNIVERSITY DRIVE DIVISION of the VA PITTSBURGH HEALTHCARE SYSTEM. An effective Environmental Graphics Design Program also reinforces the image of the Department of Veterans Affairs.

ASTORINO

Architecture Engineering Interior Design Design/Build

TABLE OF CONTENTS

SECTION 1

DESIGN COMPONENTS

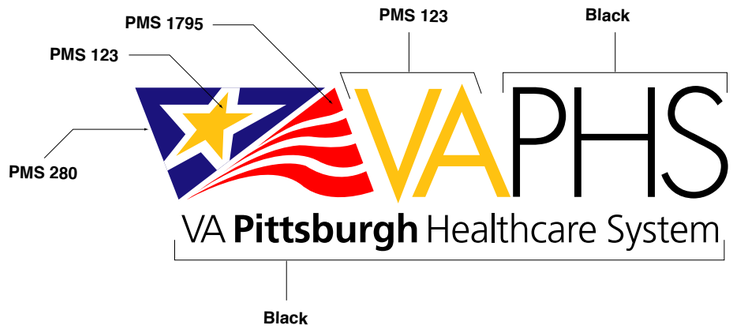
ASTORINO
Architecture Engineering Interior Design Design/Build

Color
The standard color palette used is for general selection of vinyl and paint finishes as described in individual drawing specifications.

Colors shown are intended for visual reference and do not neccacarily depict exact color matching.

Color#	Description	Specification
T1	Reflective White	Vinyl
T2	Gloss Black	Vinyl
T3	Red	Vinyl
T4	Sapphire Blue	Vinyl
T5	VA Yellow	Vinyl (Match PMS 123)
B1	White	Matthews Acrylic Polyurethene
B2	VA Blue	Match PMS 280C
B3	VA Red	Match PMS 1795C
B4	Translucent White	Lexan
B5	Translucent Red	Lexan
B6	Translucent Yellow	Lexan
B7	Translucent Blue	Lexan
P1	White	Matthews Acrylic Polyurethene
P2	VA Blue	Match PMS 280C
P3	VA Red	Match PMS 1795C
P4	VA Yellow	Match PMS 123C
F1	Clear Anodized Satin Aluminum	
F2	Black Oxidized Aluminum	
F3	Blue Painted Aluminum	Match PMS 280C

Signature
The signature which includes the VAPHS logo icon and the text shall be presented in a manner consistent with the Department of Veterans Affairs graphic standards. Adjacent configuration is the acceptable use with the logo icon. Any enlargements or reductions shall always hold porportion.



Typeface
Futura Book is the standard typeface selected and will be used predominantly throughout the sign program.

Futura Book

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

Futura Demi

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

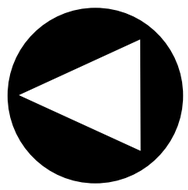
Futura Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

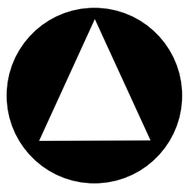
Arrow
Illustrations show the prescribed arrow for use in this program. The standard position for arrows, in relation to text, is on the left of the text line.

The arrow size is shown in scale on all drawings.

Position 1
Direction Right



Position 2
Direction Left



Position 3
Direction Straight

Viewing Distance Guide
The adjacent charts are to provide assistance in determining the size of lettering to be used in relation to the distance that a sign is going to be read.

These charts are general and there may be situations that would require deviation.

Exterior Signs

Viewing Distance Up To:		Letter Height		Application
7.5 M	25′	25 mm	1"	
12 M	40′	40 mm	1½"	
15 M	50′	50 mm	2"	
24 M	80′	75 mm	3"	
33 M	110′	100 mm	4"	
48 M	160′	150 mm	6"	
75 M	250′	225 mm	9"	
97.5 M	325′	300 mm	12"	
150 M	500′	450 mm	18"	
195 M	650′	600 mm	24"	

Symbols

Viewing Distance Up To:		Letter Height	
7.5 M	25′	75 mm	3"
10.5 M	35′	100 mm	4"
15 M	50′	125 mm	5"
18 M	60′	150 mm	6"
30 M	100′	200 mm	8"
34.5 M	115′	225 mm	9"
39 M	130′	250 mm	10"
45 M	150′	300 mm	12"

Exterior Sign Types
The following nomenclature is used to identify sign types. It has been developed to easily identify a sign type, size, and function.

E Designates an exterior sign.
I Identifies that the sign is internally illuminated.
N Identifies that the sign is non-illuminated and has reflective graphics.
01 Two digit numbers identifies a particular sign type family.
.1 The number following the period identifies a specific sign within the family.
A The letter designates a specific sign configuration and/or layout for graphics.

Sign Type 01 - Monument Sign for Identification

Sign Type 02 - Directional Monument Sign

Sign Type 03 - Post and Panel Sign for Identification

Sign Type 04 - Post and Stacking Bar Sign for Directional Information

Sign Type 05 - Single Post Identification, Informational and Directional Sign

Sign Type 06 - Wall Mounted Signs

Sign Type 07 - Dimensional Letters

Sign Type 08 - Parking Identification

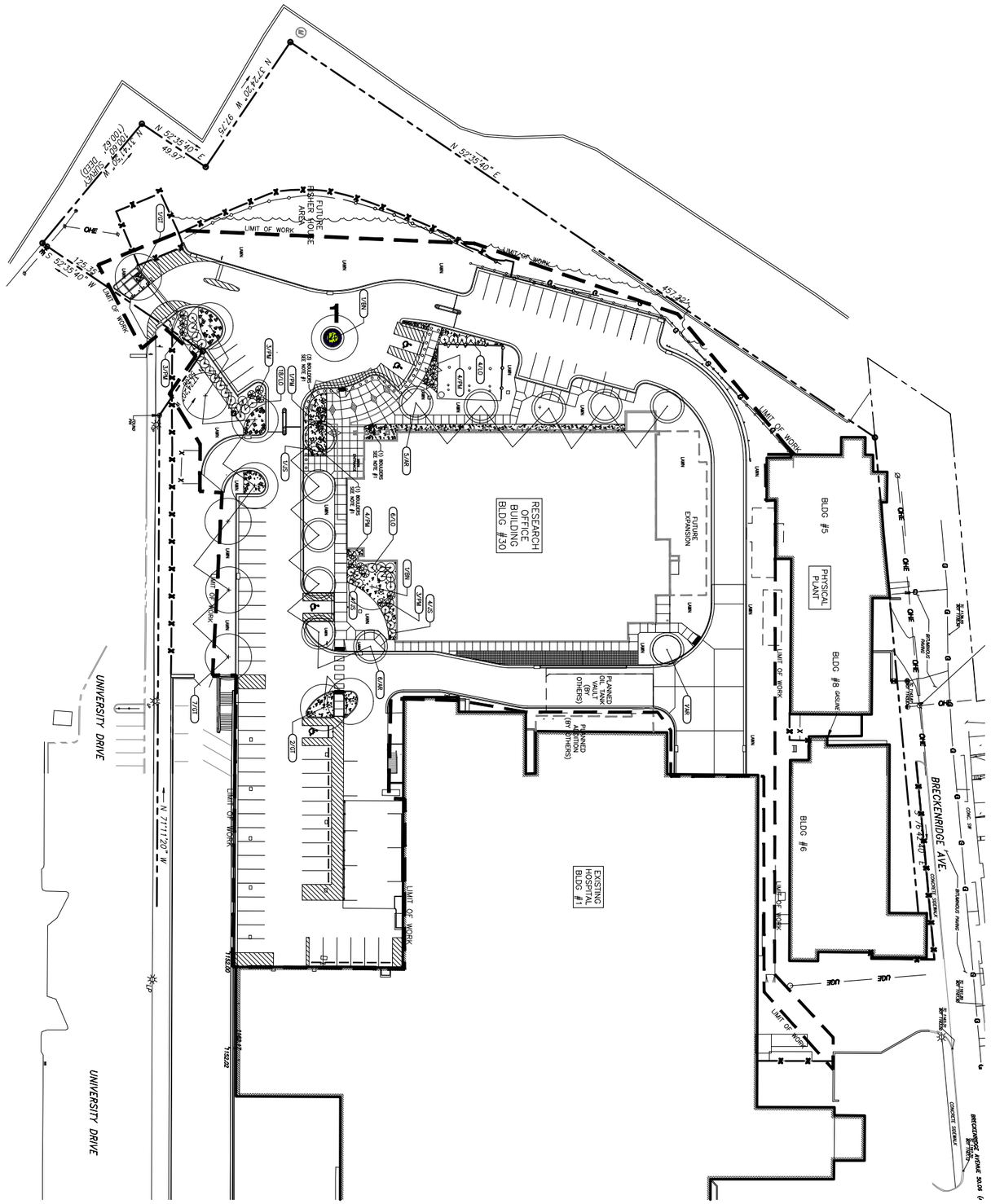
SIGN SCHEDULE

	Dwg. #	Qty.	Message Front	Message Back
1	EI01.4	1	(see drawing)	

Legend

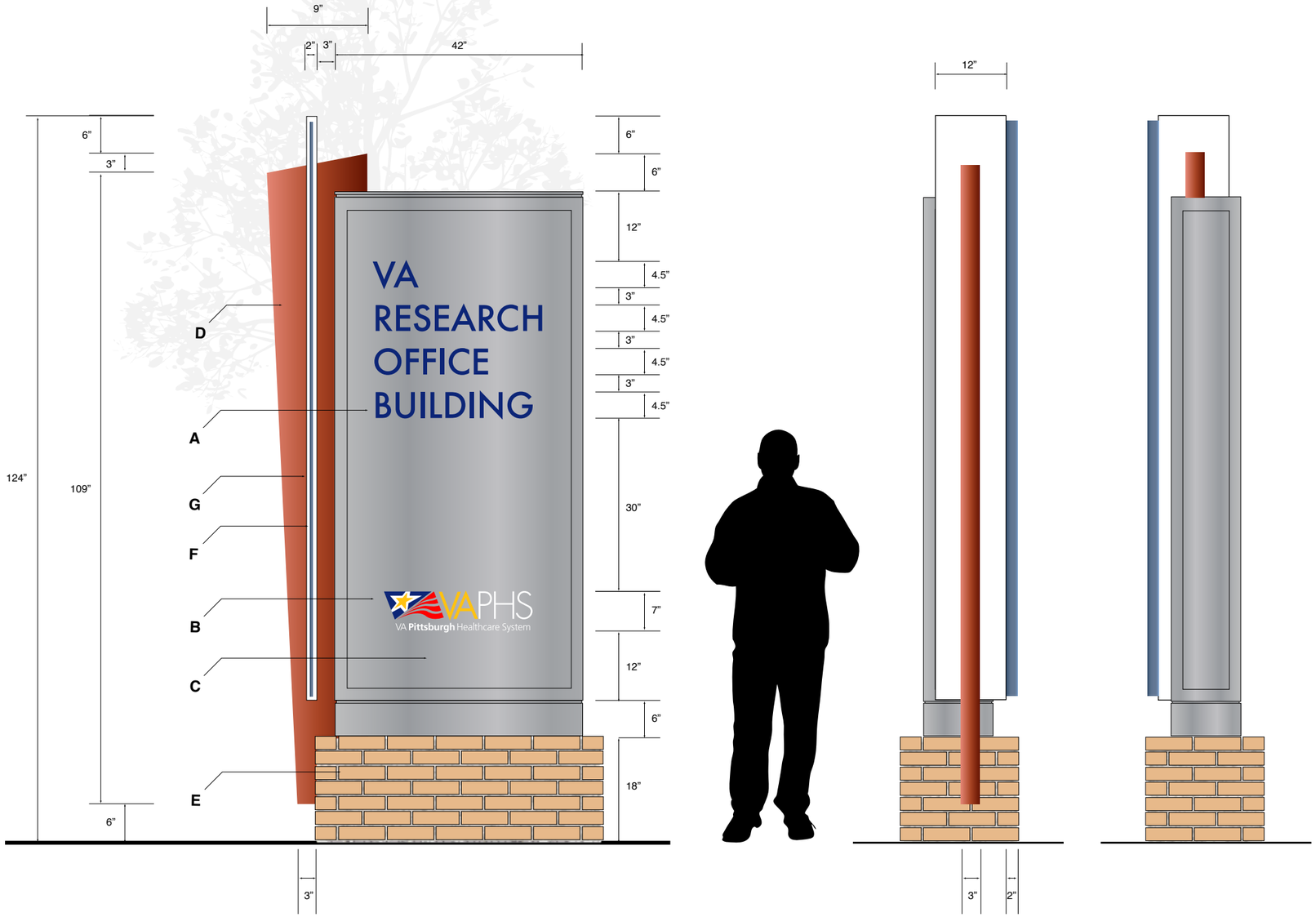
- Illuminated Monument Signs - Type 01

SIGN PLAN



SECTION 2

EXTERIOR SIGNS



Description

Unicor/290 Illuminated
exterior sign to meet
VA and Federal Government
Standards

Sign Use & Application

Monumental Informational Sign
directed specifically to drivers.

Message Configuration
(Refer to message layout on this drawing)

Graphic Process

Routed logo and letters. Diffused backing
for illumination. See detail
drawings for electrical and mechanical
illustrations.

Color/Materials

A: B7 - Routed Letter
B: B4,B5,B6,B7 - Routed VA Logo
C: F1 - Aluminum Cabinet
D: F1 - Anodized Aluminum painted
to match red insulated metal panel
on building
E: Brick to match building facade
F: Spandrel Glass to match building
G: Aluminum sunshade painted white

Typeface

Futura Book
VAPHS Logo Identity

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN
DESIGN/BUILD

ASTORINO

VAPHS
VA Pittsburgh Healthcare System

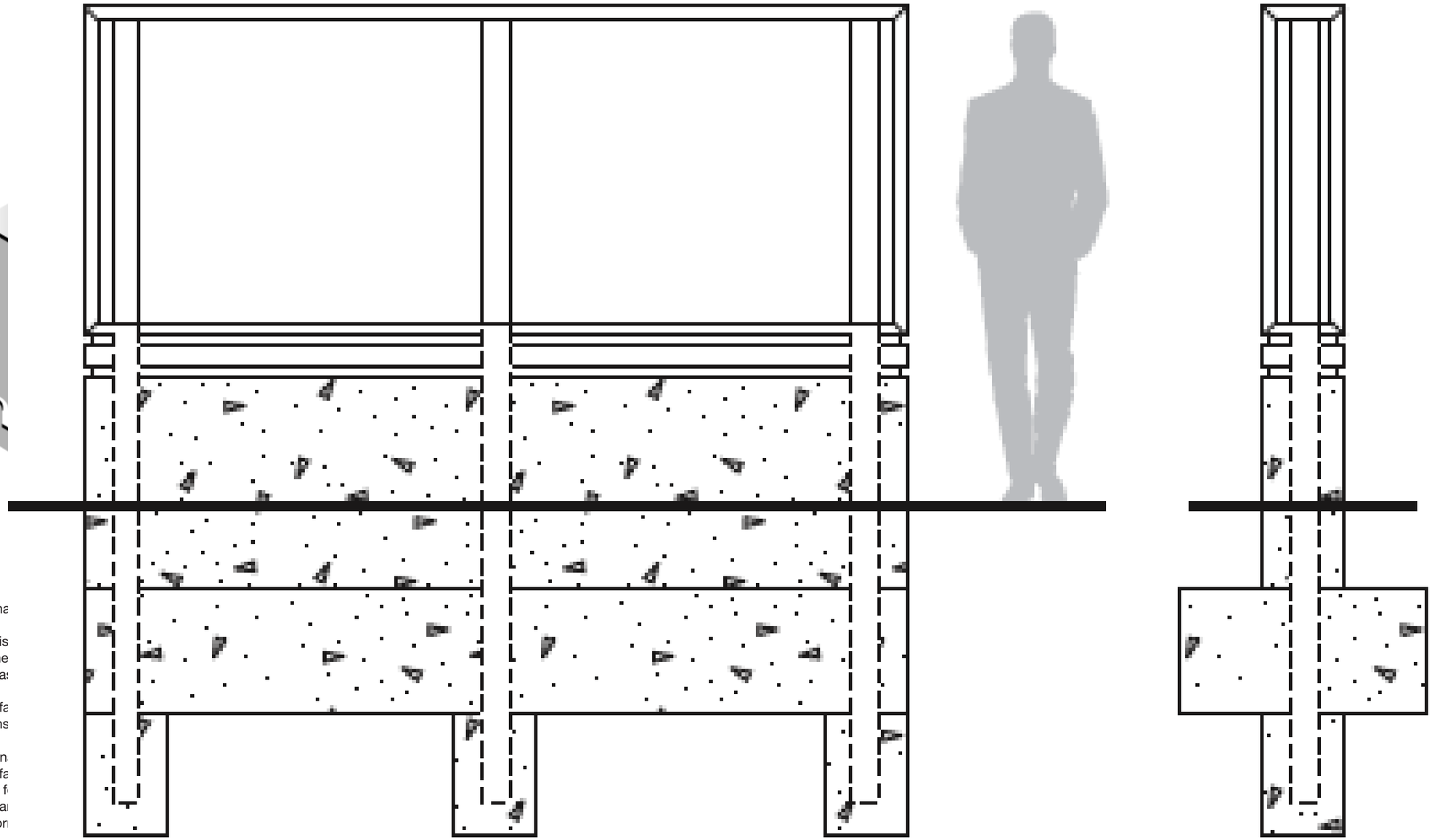
UNIVERSITY DRIVE DIVISION

EXTERIOR ILLUMINATED MONUMENT

28 JANUARY 2010

E101.4

EI01.02 4X10



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ARCHITECTURE
ENGINEERING
ERIOR DESIGN
DESIGN/BUILD

ASTORINO

VAPHS
ittsburgh Healthcare System

VERSITY DRIVE DIVISION

IFICATION DETAILS

PTEMBER 2009

SD

SECTION 10 21 13
TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies solid polymer toilet partitions and urinal screens.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.
B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.
C. Overhead structural steel supports for ceiling hung pilasters: Section 05 50 00, METAL FABRICATIONS.
D. Colors: Section 09 06 00, SCHEDULE FOR FINISHES.
E. Grab bars and toilet tissue holders: Section 10 28 00, TOILET, BATH, AND LAUNDRY ACCESSORIES.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
B. Samples: 150 mm (six-inch) square of toilet compartment.
C. Manufacturer's Literature and Data: Specified items indicating all hardware and fittings, material, finish, and latching.
D. Shop Drawings: Construction details at 1/2 scale, showing installation details, anchoring and leveling devices.
E. Manufacturer's certificate, attesting that zinc-coatings conform to specified requirements.
F. LEED Submittals:
   1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
      a. Include statement indicating costs for each product containing recycled content.

1.4 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
B. Federal Specifications (Fed. Spec.):
   FF-B-575C.....Bolt, Hexagon and Square
C. Code of Federal Regulations (CFR):
   40 CFR 247.....Comprehensive Procurement Guidelines for Products Containing Recovered Materials

D. Commercial Item Descriptions (CID):
A-A-1925.....Shield, Expansion (Nail Anchors)
A-A-60003.....Partitions, Toilet, Complete

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-Of-Design Product: Subject to compliance with requirements, provide Santana Products, Inc.; Sandstone or comparable product by one of the following:
1. Accurate Partitions Corporation.
2. Ampco, Inc.
3. Bradley Corporation; Mills Partitions.
4. General Partitions Mfg. Corp.
5. Hadrian Manufacturing Inc.
6. Knickerbocker Partition Corporation.
7. Metpar Corp.
8. Sanymetal; a Crane Plumbing company.

2.2 FABRICATION

A.LEED Requirements:
1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.

B. Solid polymer: water resistant; graffiti resistant; non-absorbent; contain a minimum 30 percent post consumer recycled plastic; Class C flame spread rating.

C. Conform to Fed. CID A-A-60003, except as modified herein.

D. Fabricate to dimensions shown or specified.

E. Toilet Enclosures:
1. Type 1, Style A (Floor supported).
2. Reinforce panels shown to receive toilet tissue holders or grab bars.
3. Upper pivots and lower hinges adjustable to hold doors open 30 degrees.
4. Latching devices and hinges for handicap compartments shall comply with ADA requirements.
5. Keeper:
   a. U-slot to engage bar of throw latch.
   b. Combined with rubber bumper stop.
6. Wheelchair Toilets:
   a. Upper pivots and lower hinges to hold out swinging doors in closed position.
   b. Provide U-type doors pulls, approximately 100 mm (four inches) long on pull side.

7. Door Panel and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, no sightline system, and with homogenous color and pattern throughout thickness of material.
   a. Integral Hinges: Configure doors and pilasters to receive integral hinges.
   b. Heat-Sink strip: Manufacturer's standard continuous, extruded-aluminum or stainless-steel strip fastened to exposed bottom edges of solid-polymer components to prevent burning.
8. Pilaster Shoes and Sleeves Caps: Manufacturer's standard design; polymer.
9. Brackets (Fittings):
   a. Full-Height (Continuous) Type: Manufacturer's standard design; extruded aluminum. NO EXCEPTIONS.

F. Urinal Screens:
1. Type III, Style D (wall hung), finish 3.
   a. With integral flanges and continuous, full height wall anchor plate.
   b. Full Height Continuous-Type bracket.
   c. Wall anchor plate drilled for 4 anchors on both sides of screen.
2. Screen 600 mm (24 inches) wide and 1060 mm (42 inches high).

2.3 FASTENERS

A. Partition Fasteners: CID A-A-60003.
B. Use expansion bolts, CID A-A-60003, for anchoring to solid masonry or concrete.
C. Use toggle bolts, CID A-A-60003, for anchoring to hollow masonry or stud framed walls.
D. Use steel bolts FS-B-575, for anchoring pilasters to overhead steel supports.

2.4 FINISHES

A. Solid Polymer: Refer to Section 09 06 00, SCHEDULE OF FINISHES.
B. Aluminum: Refer to Section 09 06 00, SCHEDULE OF FINISHES.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
1. Install in rigid manner, straight, plumb and with all horizontal lines level.
2. Conceal evidence of drilling, cutting and fitting in finish work.
3. Use hex-bolts for through-bolting.
4. Adjust hardware and leave in freely working order.

5. Clean finished surfaces and leave free of imperfections.

B. Panels and Pilasters:

1. Support panels, except urinal screens, and pilaster abutting building walls near top and bottom by stirrup supports secured to partitions with through-bolts.
2. Secure brackets to walls with suitable anchoring devices for each bracket.
3. Secure panels to faces of pilaster near top and bottom with stirrup supports, through-bolted to panels and machine screwed to each pilaster.
4. Secure edges of panels to edges of pilasters near top and bottom with "U" shaped brackets.
5. Where overhead braced, secure pilasters to building walls by headrails clamped on or set into top of each pilaster.
   a. Secure clamps to pilasters with two through-bolts to each clamp.
   b. When headrails are set into pilasters, through-bolt them to the pilasters.
   c. Support headrails on wall flange fittings secured to building walls with minimum of two anchor bolts to each flange fitting.

C. Urinal Screens:

1. Anchor urinal screen flange to walls with minimum of four bolts both side of panel.
2. Space anchors at top and bottom and equally in between.

- - - E N D - - -

SECTION 10 21 23
CUBICLE CURTAIN TRACKS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies cubicle curtain track (C.C.T.).

1.2 RELATED WORK

A. Steel shapes for suspending track assembly: Section 05 50 00, METAL FABRICATIONS and Section 09 51 00, ACOUSTICAL CEILINGS.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Samples:

1. One 300 mm (12 inch) long piece of cubicle curtain track with carrier access and end stop.
2. One clip anchor for fastening track to grid system of acoustical ceilings. One curtain carrier.

C. Shop Drawings: Showing layout of tracks and method of anchorage.

D. Manufacturer's Literature and Data:

1. Cubicle curtain track.

E. LEED Submittals:

1. None required.

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver material in original package marked to identify the contents, brand name, and the name of the manufacturer or supplier.

B. Store in dry and protected location. Store so as to not bend or warp the tracks.

C. Do not open packages until contents are needed for installation, unless verification inspection is required.

1.5 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM):

B221-06.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

B456-03.....Electrodeposited Coatings for Copper Plus Nickel Plus Chromium and Nickel Plus Chromium

C. The National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500 Series.....Metal Finishes Manual

PART 2 - PRODUCTS

2.1 CUBICLE CURTAIN TRACKS

A. LEED Requirements:
   1. None required.
B. Surface mounted:
   1. Channel Tracks (Surface Mounted Type): Extruded aluminum, ASTM B221, alloy 6063, temper T5 or T6, channel shaped, with smooth inside raceway for curtain carriers.
C. Curtain Carriers: Nylon or delrin carriers, with either nylon or delrin wheels on metal, delrin, or nylon axles. Equip each carrier with either stainless steel, chromium plated brass or steel hooks with swivel, or nickel chromium plated brass or stainless steel bead chain and hook assembly, or delrin carriers may have moulded on delrin hooks. Hook for bead chain may be the same material and finish as the bead chain or may be chromium plated steel. Provide 2.2 carriers for every 300 mm (onefoot) of each section of each track length, plus one additional carrier.
D. End Stop Connectors, Ceiling Flanges and Other Accessories: Fabricate from the same material with the same finish as the tracks or from nylon.
E. Hangers and Fittings: Fabricate from the same material with the same finish as the tracks. Hangers may be round or square for channel tracks and round for tubular tracks. Design fittings to be compatible with design of tracks and to safely transmit the track load to the hangers.
F. At end of each section of track, make provision for insertion and removal of carriers. Design to prevent accidental removal of carrier. Any operating mechanism shall be removable with common tools.

2.2 FASTENERS

A. Exposed Fasteners, Screws and Bolts: Stainless steel or chromium/nickel plated brass.
B. Concealed Fasteners, Screws and Bolts: Hot-dip galvanized (except in high moisture areas use stainless steel).
C. Metal Clips: Anchor curtain tracks to exposed grid of lay-in acoustical tile ceilings, with concealed metal (butterfly) type or two piece snap locking type ceiling clip of high strength spring steel. When it is not possible to install the metal ceiling clip, the cubicle curtain track may be screwed to the ceiling grid.

2.3 FINISHES

A. Aluminum: Finish numbers for aluminum specified are in accordance with The Aluminum Association's Designation System. AA-C22A31 finish

chemically etched medium matte, with clear anodic coating, Class II Architectural, 0.4 mils thick.

2.4 FABRICATION

A. Weld and grind smooth joints of fabricated components.

B. Form tracks and bends of lengths that will produce the minimum number of joints. Make track sections up to 4800 mm (16 feet) without joints. Form corner bend on a 300 mm (12 inch) radius.

C. Provide steel anchor plates, supports, and anchors for securing components to building construction.

D. Form flat surface without distortion.

E. Shop assemble components and package complete with anchors and fittings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install tracks after finish painting and ceiling finishing operations are complete.

B. Install track level and hangers plumb and securely anchor to the ceiling or suspend from above to form a rigid installation.

C. Anchor surface mounted curtain tracks directly to exposed grid of lay-in acoustical tile ceilings with suitable fasteners, spaced approximately 600 mm (24 inches) on center.

D. Securely fasten end stop caps to prevent their being forced out by the striking weight of carriers.

E. Remove damaged or defective components and replace with new components or repair to the original condition.

3.2 ACCEPTANCE

A. Track shall be installed neat, rigid, plumb, level and true, and securely anchored to the overhead construction.

B. Carrier units shall operate smoothly and easily over the full range of travel.

- - - E N D - - -

SECTION 10 22 19.13
DEMOUNTABLE METAL PARTITIONS
(ALTERNATE #2)

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies demountable partitions, metal faced sandwich type with mineral fiber core.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.
B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.
C. Electrical Work: Division 26, ELECTRICAL.
D. Door Hardware: Section 08 71 00, DOOR HARDWARE.
E. Color of Finish: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 DESIGN CRITERIA

A. Floor fastenings:
Concealed and adjustable to variations in floor level and finish.
B. Door and panel units:
Interchangeable and not less than 1000 mm (40 inches) wide unless otherwise shown.
C. Partition units containing doors:
Adjustable vertically and capable of assembly on floors having normal deviations from a plane surface, without cutting the doors.
D. Provide for installation of electrical wiring through vertical and horizontal frame members.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide demountable partitions capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Load-Bearing Capacity of Panel System: Not less than 300-lb (136-kg concentrated) and 2.3-lb/linear inch (0.041-kg/linear mm) distributed proof load when tested according to BIFMA X 5.6, Section 6, Table 1.
2. Transverse-Load Capacity of Panel System: Lateral deflection of not more than 1/120 of the overall span when tested under a uniformly distributed load of 5 lb/sq. ft. (24.4 kg/sq. m) according to ASTM E 72.

3. Seismic Performance: Provide demountable partitions capable of withstanding the effects of earthquake motions determined according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures."

1.5 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Samples:
Metal panel, 200 mm (eight inches) square, with baked-on enamel finish, each color.

C. Shop Drawings:
Complete drawings, 1/2 full scale, showing details of construction and anchorage.

D. LEED Submittals:

1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
   a. Include statement indicating costs for each product containing recycled content.
2. Credits MR 5.1 & 5.2: For products manufactured within 500 miles of project site *and* whose raw materials are extracted, harvested or recovered, within 500 miles of the project site, documentation indicating the location and distance of material manufacturer and point of extraction, harvest, or recovery for each raw material from the Project site.
   a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
3. Credit MR 7: Certificates of chain of custody signed by manufacturers certifying that products specified to be made of certified wood were made from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, “Principles and Criteria.” Include evidence that mill is certified for chain-of-custody by an FSC-accredited certification body.
   a. Include statement indicating costs for each wood based product.
4. Credit EQ 4.1: Manufacturer’s product data for installation adhesives and sealants applied on site and within the vapor barrier, including printed statement of VOC content (in g/L).
5. Credit EQ 4.2: Manufacturer’s product data for installation paints and coatings applied on-site and within the vapor barrier, including printed statement of VOC content (in g/L).

1.6 QUALITY ASSURANCE

A. Sound Transmission Characteristics: Where STC ratings are indicated, provide partitions with STC rating that was determined by testing an identical system according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

B. Fire-Test-Response Characteristics: Provide demountable partitions complying with the following requirements:

1. Where indicated, provide demountable partitions identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or a testing and inspecting agency acceptable to authorities having jurisdiction.
   a. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another testing and inspecting agency.
   b. Assemblies or systems shall be identified with appropriate markings of applicable testing and inspecting agency.
2. Surface-Burning Characteristics: Provide demountable partitions per ASTM E 84:
   a. Flame-Spread Index: 25 or less.
   b. Smoke-Developed Index: 450 or less.

1.7 APPLICABLE PUBLICATIONS

A. American Society for Testing and Material (ASTM):

A366-97.....Steel Sheet, and Strip, Carbon, Cold Rolled, and Commercial Quality

C665-06.....Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing

C920-08.....Elastomeric Joint Sealants

C1036-06.....Flat Glass

C1048-04.....Heat-Treated Flat Glass

PART 2 – PRODUCTS

2.1 DEMOUNTABLE UTILIZED-PANEL PARTITIONS

A. LEED Requirements:

1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.
2. Provide a minimum of 50 percent (by cost) of wood-based materials that are produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

3. Provide installation adhesives, sealants, paints, and coatings applied on site and within the vapor barrier, that comply with VOC limits outlined in Division 01 Section "Indoor Air Quality Requirements."
4. For installation adhesives, sealants, paints, and coatings applied on site and within the vapor barrier, comply with VOC limits outlined in Division 01 Section "Indoor Air Quality Requirements."
   Provide [adhesive/sealant/paint/coating/name of applicable product], if used within the weatherproofing system with a VOC content of XXX g/L or less when calculated according to 40 CFG 59, Subpart D (EPA Method 24)."

B. Basis-of-Design Product: Subject to compliance with requirements, provide DIRTT Environmental Solutions or comparable product by one of the following:
   1. Gravity Lock Systems, Inc.
   2. Herman Miller Wall Alliance.
   3. Hugh Robinson, Inc.
   4. IMT Modular Partitions Ltd.
   5. NESLO Manufacturing Company.
   6. Provincial Partitions Ltd.
   7. SmartWalls LLC.
   8. ULTRAWALL LLC.
   9. Wall Innovators, Inc.

C. Unitized Solid Wall System and Curtain Wall System:
   1. Components which can be disassembled, relocated, and substantially reused.
   2. System shall consist of vertical MDF face panels with: Chroma coat paint, fabric or vinyl wrapped or wood veneer finishes, water based finishes, UV cured.
   3. Face tiles which clad the aluminum frame, may be monolithic or segmented and will allow for integrated hang on components of other manufacturers' origin without defacing or damaging face tile, substrate of structural frame.
   4. Tiles can span off-module in segments or monoliths, vertically and horizontally.

5. Integrated accessory channels are designed into the structural frame allowing for accessible power and data; hang on accessories, storage and furniture component bearing.
6. Panel shall also provide aluminum or veneer wrapped aluminum leveling floor base, top rail (for stand alone) or ceiling track attached top track, uni-zippers or angled/pivot zipper for angled and corner connections for panel to panel connections, trim, and accessories.
7. Wall panel shall be 4 inches thick and provide 2 inches wide cavity for distribution of utilities readily accessed from either side of wall via removable face tiles.
8. Interior frame is unitized aluminum assembly to accept face tiles and any hang on components.
9. Maximum panel height is 10 feet at full 48 inch maximum width, up to 12 feet with diminishing maximum width.
10. Solid Wall System supports 14.6lbs/ linear inch functional load per ANSI/ BIFMA X-5.6-2003.

D. Unitized glazed wall panels:
1. Shipped to the site fully assembled and can fully and readily integrate with solid panels using universal connector described above.
2. Glazing shall consist of tempered or laminated glass, 3/8 inch to 1/2 inch thick.
3. Frames shall be anodized aluminum, powdercoat or veneer wrapped aluminum as above.
4. Custom color or veneer acceptable on frames.
5. Maximum panel height is 10 feet at full 60 inch maximum width.
6. Product manufactured parametric sizing.

E. Stick Built walls:
1. Comprised of same aluminum or veneer wrapped aluminum frames as above.
2. PVC gaskets and locally supplied glass, tempered or laminated, assembled on site.
3. Stick built wall shall seamlessly integrate with both wall panel types above.
4. Maximum panel height is 9 feet.
5. Maximum glass size: 9 feet high x 48 inches wide.
6. Thickness of glass: 10mm.
7. Maximum length of glass before vertical support required: 12 feet.

F. Pivot Doors are ADA compliant in both clear opening and opening force per section 4.13 of the ADA Guidelines. Custom sizes as indicated.

G. Hardware compatibility: Refer to SECTION 08 71 00, DOOR HARDWARE.

H. Walls connect to and release from the base building through carpet grippers and ceiling track clips without damage. Can be mounted to gypsum board suffix or ceiling – blocking not required.

I. Base detail and leveling capabilities – overall adjustability of 3 inches includes 2-1/4 inch leveling at base and 3/4 inch gasket flexibility at ceiling.

J. Acoustical Rating: STC 44.

2.2 MATERIALS

A. Sheet Steel: ASTM A366, Cold-Rolled Commercial Quality of the following thickness:

Panel Face Sheets	0.9 mm (0.036 inch)
Top Filler Face Sheets	0.9 mm (0.036 inch)
End Filler Face Sheets	9 mm (0.036 inch)
Door Face Sheets	0.9 mm (0.036 inch)
Glazing Beads	0.9 mm (0.036 inch)
Door Frames	1.3 mm (0.048 inch)
Post Caps	1.3 mm (0.048 inch)
Cornice	1.3 mm (0.048 inch)
Base	1.3 mm (0.048 inch)
Wall and Ceiling Channels	1.3 mm (0.048 inch)
Posts	1.6 mm (0.060 inch)

B. Mineral Fiber Insulation: ASTM C665, Type I.

C. Glazing Cushions:

1. Channel shaped, continuous, of rubber, vinyl, polyethylene or neoprene.

D. Glass:

1. ASTM C1048, Kind FT (tempered, clear), Condition A, Type, I, Class 1, Quality q3, 6 mm (1/4 inch) thick.

2.3 FABRICATION

A. Demountable Unitized Panels:

1. Factory-assembled, flush, hollow unit construction; with faces smooth and free of buckles, oil canning, and seams; and insulated with solidly packed, inorganic, mineral filler.

2. Fabricate panels for installation with concealed fastening devices and pressure-fit components that will not damage ceiling or floor coverings.
3. Fabricate panels with continuous light-and-sound seals at floor, ceiling, and other locations where panels abut fixed construction.
4. Factory glaze panels to the greatest extent possible.

B. Components:
1. Fabricate components for installation with concealed fastening devices and pressure-fit members that will not damage ceiling or floor coverings.
2. Fabricate for installation with continuous seals at floor, ceiling, and other locations where partition assemblies abut fixed construction and for installation of sound attenuation insulation in partition cavities.

2.4 FINISHES, GENERAL

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install demountable partition systems rigid, level, plumb, and aligned. Install seals to prevent light and sound transmission at connections to floors, ceilings, fixed walls, and abutting surfaces.
1. Installation Tolerance: Install each demountable partition so surfaces vary not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent partitions.

B. Install door-and-frame and glazing-and-glazing-frame assemblies securely anchored to partitions and with doors aligned and fitted. Install and adjust door hardware for proper operation.
1. Install fire-rated door frames according to NFPA 80.

3.2 FIELD PAINTING

A. Touch-up all nicks and scratches with paint, matching color and texture of baked-on enamel finish, furnished by partition manufacturer.

3.3 DEMONSTRATION

A. Engage a factory-authorized service representative to demonstrate and train VA's maintenance personnel to adjust, operate, and maintain demountable partitions.

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SECTION 10 26 00
WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies corner guards.

1.2 RELATED WORK

A. Structural steel corner guards: Section 05 50 00, METAL FABRICATIONS.

B. Armor plates and kick plates not specified in this section: Section 08 71 00, DOOR HARDWARE.

C. Color and texture of aluminum and resilient material: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Shop Drawings: Show design and installation details.

C. Manufacturer's Literature and Data:

1. Corner Guards.

D. Test Report: Showing that resilient material complies with specified fire and safety code requirements.

E. LEED Requirements:

1. None required.

1.4 DELIVERY AND STORAGE

A. Deliver materials to the site in original sealed packages or containers marked with the name and brand, or trademark of the manufacturer.

B. Protect from damage from handling and construction operations before, during and after installation.

C. Store in a dry environment of approximately 21° C (70 degrees F) for at least 48 hours prior to installation.

1.5 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

B. American Society for Testing and Materials (ASTM):

A167-99(R2004).....Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

B221-07.....Aluminum and Aluminum-Alloy Extruded bars, Rods, Wires, Shapes, and Tubes

C. The National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500 Series.....Metal Finishes Manual

PART 2 - PRODUCTS

2.1 MATERIALS

A. LEED Submittals:
   1. None required.
B. Stainless Steel: ASTM A167, Type 302B.
C. Aluminum Extruded: ASTM B221, Alloy 6063, Temper T5 or T6. Aluminum alloy used for colored anodizing coating shall be as required to produce specified color.

2.2 CORNER GUARDS

A. Stainless Steel Corner Guards: Fabricate of 1.6 mm (0.0625-inch) thick stainless steel. Form guards of dimensions and to contour shown.

2.3 FASTENERS AND ANCHORS

A. Provide fasteners and anchors as required for each specific type of installation.
B. Where type, size, spacing or method of fastening is not shown or specified, submit shop drawings showing proposed installation details.

2.4 FINISH

A. In accordance with NAAMM AMP 500 series.
B. Stainless Steel: NAAMM finish Number 4.

PART 3 - INSTALLATION

3.1 STAINLESS STEEL CORNER GUARDS

A. Mount guards on external corners of interior walls, partitions and columns as shown.
B. Where corner guards are installed on walls, partitions or columns finished with ceramic tile, anchor corner guards as shown on drawings. Provide continuous 16 gage perforated, galvanized Z-shape steel anchors welded to back edges of corner guards and wired to metal studs. Coat back surfaces of corner guards, where shown, with a non-flammable, sound deadening material. Corner guards shall overlap finish surfaces.
   1. Where corner guards are installed on gypsum board, clean surface and anchor guards with a neoprene solvent-type contact adhesive specifically manufactured for use on gypsum board construction. Remove excess adhesive from around edge of guard and allow to cure undisturbed for 24 hours.

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SECTION 10 28 00
TOILET ACCESSORIES

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies manufactured items used in toilet rooms, at sinks and janitor closets and in related spaces.

B. Items Specified:

1. Grab Bars.
2. Clothes hooks, robe or coat.
3. Metal framed mirror.
4. Stainless steel utility shelves.
5. Baby changing station.
6. Recessed waste receptacle.
7. Sanitary napkin disposal.
8. Utility shelf with mop/broom holder and rag hooks.

C. This section also specifies custom fabricated items used in toilets and related spaces.

1.2 RELATED WORK

A. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS for additional LEED requirements.

B. Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS for VOC limit.

C. Color of finishes: Section 09 06 00, SCHEDULE FOR FINISHES.

D. Installation of Government-supplied toilet accessories.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Shop Drawings:

1. Each product specified.
2. Metal framed mirrors, showing shelf where required, fillers, and design and installation of units when installed on ceramic tile wainscots and offset surfaces.
3. Grab bars, showing design and each different type of anchorage.

C. Samples:

1. One of each type of accessory specified.
2. After approval, samples may be used in the work.

D. Manufacturer's Literature and Data:

1. All accessories specified.
2. Show type of material, gages or metal thickness in inches, finishes, and when required, capacity of accessories.

E. Manufacturer's Certificates:
   1. Anodized finish as specified.
F. LEED Submittals:
   1. Credits MR 4.1 & 4.2: For products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.
      a. Include statement indicating costs for each product containing recycled content.
   2. Credits MR 5.1 & 5.2: For products manufactured within 500 miles of project site *and* whose raw materials are extracted, harvested or recovered, within 500 miles of the project site, documentation indicating the location and distance of material manufacturer and point of extraction, harvest, or recovery for each raw material from the Project site.
      a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

1.4 QUALITY ASSURANCE

A. Each product shall meet, as a minimum, the requirements specified, and shall be a standard commercial product of a manufacturer regularly presently manufacturing items of type specified.
B. Each accessory type shall be the same and be made by the same manufacturer.
C. Each accessory shall be assembled to the greatest extent possible before delivery to the site.
D. Include additional features, which are not specifically prohibited by this specification, but which are a part of the manufacturer's standard commercial product.

1.5 PACKAGING AND DELIVERY

A. Pack accessories individually to protect finish.
B. Deliver accessories to the project only when installation work in rooms is ready to receive them.
C. Deliver inserts and rough-in frames to site at appropriate time for building-in.
D. Deliver products to site in sealed packages of containers; labeled for identification with manufacturer's name, brand, and contents.

1.6 STORAGE

A. Store products in weathertight and dry storage facility.
B. Protect from damage from handling, weather and construction operations before, during and after installation in accordance with manufacturer's instructions.

1.7 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM):

A167-99(R2004).....Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.

A176-99(R2004).....Stainless and Heat-Resisting Chromium Steel Plate, Sheet, and Strip

A269-07.....Seamless and Welded Austenitic Stainless Steel Tubing for General Service

A312/A312M-06.....Seamless and Welded Austenitic Stainless Steel Pipes

A653/A653M-07.....Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

B221-06.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes

B456-03.....Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium

C1036-06.....Flat Glass

F446-85 (R2004).....Consumer Safety Specification for Grab Bars and Accessories Installed in the Bathing Area.

A269-07.....Seamless and Welded Austenitic Stainless Steel Tubing for General Service

C. The National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500 Series.....Metal Finishes Manual

AMP 500-505-88.....Metal Finishes Manual and Finishes for Stainless Steel

D. American Welding Society (AWS):

D10.4-86 (R2000).....Welding Austenitic Chromium-Nickel Stainless Steel Piping and Tubing

E. Federal Specifications (Fed. Specs.):

A-A-3002.....Mirrors, Glass

FF-S-107C (2).....Screw, Tapping and Drive

FF-S-107C.....Screw, Tapping and Drive.

PART 2 - PRODUCTS

2.1 MATERIALS

A. LEED Requirements:

1. Recycled Content of Steel Products: Provide steel products with minimum 25% post-consumer recycled content.

B. Aluminum: ASTM B221, alloy 6063-T5 and alloy 6463-T5.

C. Stainless Steel:

1. Plate or sheet: ASTM A167, Type 302, 304, or 304L, except ASTM A176 where Type 430 is specified, 0.0299-inch thick unless otherwise specified.
2. Tube: ASTM A269, Alloy Type 302, 304, or 304L.

D. Stainless Steel Tubing: ASTM A269, Grade 304 or 304L, seamless or welded.

E. Stainless Steel Pipe: ASTM A312; Grade TP 304 or TP 304L.

F. Steel Sheet: ASTM A653, zinc-coated (galvanized) coating designation G90.

G. Glass:

1. ASTM C1036, Type 1, Class 1, Quality q2, for mirrors.

2.2 FASTENERS

A. Exposed Fasteners: Stainless steel or chromium plated brass, finish to match adjacent surface.

B. Concealed Fasteners: Steel, hot-dip galvanized (except in high moisture areas such as showers or bath tubs use stainless steel).

C. Toggle Bolts: For use in hollow masonry or frame construction.

D. Hex bolts: For through bolting on thin panels.

E. Expansion Shields: Lead or plastic as recommended by accessory manufacturer for component and substrate for use in solid masonry or concrete.

F. Screws:

1. ASME B18.6.4.
2. Fed Spec. FF-S-107, Stainless steel Type A.

G. Adhesive: As recommended by manufacturer for products to be joined.

2.3 FINISH

A. In accordance with NAAMM AMP 500 series.

B. Anodized Aluminum:

1. AA-C22A41 Chemically etched medium matte, with clear anodic coating, Class I Architectural, 0.7-mil thick.

C. AA-M32 Mechanical finish, medium satin.

1. Chromium Plating: ASTM B456, satin or bright as specified, Service Condition No. SC2.
2. Stainless Steel: NAAMM AMP 503, finish number 4.
3. Ferrous Metal:
   a. Shop Prime: Clean, pretreat and apply one coat of primer and bake.
   b. Finish: Over primer apply two coats of alkyd or phenolic resin enamel, and bake.

2.4 FABRICATION - GENERAL

A. Welding, AWS D10.4.

B. Grind dress, and finish welded joints to match finish of adjacent surface.

C. Form exposed surfaces from one sheet of stock, free of joints.

D. Provide steel anchors and components required for secure installation.

E. Form flat surfaces without distortion. Keep exposed surfaces free from scratches and dents. Reinforce doors to prevent warp or twist.

F. Isolate aluminum from dissimilar metals and from contact with building materials as required to prevent electrolysis and corrosion.

G. Hot-dip galvanized steel, except stainless steel, anchors and fastening devices.

H. Shop assemble accessories and package with all components, anchors, fittings, fasteners and keys.

I. Key items alike.

J. Provide templates and rough-in measurements as required.

K. Round and deburr edges of sheets to remove sharp edges.

2.5 GRAB BARS

A. Fed. Spec WW-P-541/8B, Type IV, bars, surface mounted, Class 2, grab bars and ASTM F446.

B. Fabricate of either stainless steel or nylon coated steel, except use only one type throughout the project:

1. Stainless steel: Grab bars, flanges, mounting plates, supports, screws, bolts, and exposed nuts and washers.

C. Concealed mount.

D. Bars:

1. Fabricate from 38 mm (1-1/2 inch) outside diameter tubing.
   a. Stainless steel, minimum 1.2 mm (0.0478 inch) thick.
2. Fabricate in one continuous piece with ends turned toward walls.
3. Continuous weld intermediate support to the grab bar.

E. Flange for Concealed Mounting:

1. Minimum of 2.65 mm (0.1046 inch) thick, approximately 75 mm (3 inch) diameter by 13 mm (1/2 inch) deep, with provisions for not less than three set screws for securing flange to back plate.
2. Insert grab bar through center of the flange and continuously weld perimeter of grab bar flush to back side of flange.

F. Back Plates:

1. Minimum 2.65 mm (0.1046 inch) thick metal.
2. Fabricate in one piece, approximately 6 mm (1/4 inch) deep, with diameter sized to fit flange. Provide slotted holes to accommodate anchor bolts.

2.6 CLOTHES HOOKS-ROBE OR COAT

A. American Specialties, Inc. Model 7345 or a comparable product by one of the following:

1. A & J Washroom Accessories, Inc.
2. Bobrick Washroom Equipment, Inc.
3. Bradley Corporation.

B. Fabricate hook units either of chromium plated brass with a satin finish, or stainless steel, using 6 mm (1/4 inch) minimum thick stock, with edges and corners rounded smooth to the thickness of the metal, or 3 mm (1/8 inch) minimum radius.

C. Fabricate each unit as a double hook on a single shaft, integral with or permanently fastened to the wall flange, provided with concealed fastenings.

2.7 METAL FRAMED MIRRORS

A. Fed. Spec. A-A-3002 metal frame; chromium finished steel, anodized aluminum or stainless steel, type 302 or 304.

B. Mirror Glass:

1. Minimum 6 mm (1/4 inch) thick.
2. Set mirror in a protective vinyl glazing tape.

C. Frames:

1. Channel or angle shaped section with face of frame not less than 9 mm (3/8 inch) wide. Fabricate with square corners.
2. Use either 0.9 mm (0.0359 inch) thick stainless steel, chrome finished steel, or extruded aluminum, with clear anodized finish 0.4 mils thick.
3. Filler:
   a. Where mirrors are mounted on walls having ceramic tile wainscots not flush with wall above, provide fillers at void between back of mirror and wall surface.
   b. Fabricate fillers from same material and finish as the mirror frame, contoured to conceal the void behind the mirror at sides and top.

D. Back Plate:

1. Fabricate backplate for concealed wall hanging of either zinc-coated, or cadmium plated 0.9 mm (0.036 inch) thick sheet steel, die cut to fit face of mirror frame, and furnish with theft resistant concealed wall fastenings.
2. Use set screw type theft resistant concealed fastening system for mounting mirrors.

E. Mounting Bracket:

1. Designed to support mirror tight to wall.

2. Designed to retain mirror with concealed set screw fastenings.

2.8 STAINLESS STEEL UTILITY SHELVES

A. Shelves:
   1. Fabricate shelves of 1.2 mm (0.0478-inch) thick sheet to size and design shown.
   2. Fabricate shelves of hollow metal type construction, forming a depression as shown, with closed fronts, backs, ends and bottoms. Reinforce shelves with 1.2 mm (0.0478-inch) thick sheet steel hat channel stiffeners, full depth, welded to underside of top at bracket locations.
   3. Miter cuts, where made at corners of shelves, continuously welding.

B. Form brackets of 3 mm (1/8-inch) thick steel as shown. Drill brackets for 6 mm (1/4-inch) anchor bolts.

C. Weld or Screw brackets to shelves.

2.9 BABY CHANGING STATION – STAINLESS STEEL

A. Type: Koala Model KB 110.SSWM.

2.10 RECESSED WASTE RECEPTACLE

A. Bobrick Washroom Equipment, Inc. Model 334 or a comparable product by one of the following:
   1. A & J Washroom Accessories, Inc.
   2. American Specialties, Inc.
   3. Bradley Corporation.

B. Flange: 22 gauge stainless steel with exposed surfaces in architectural satin finish. One piece seamless construction, 1 inch wide with 1/4 inch return.

C. Cabinet: Heavy gauge stainless steel. All welded construction.

D. Waste Container: 22 gauge stainless steel. All welded construction. Secured to cabinet with bumbler loc k.

E. Liner: Heavy-duty stitched vinyl-coated nylon.

F. Capacity: 18 gallons.

2.11 SANITARY NAPKIN DISPOSAL – STAINLESS STEEL

A. Type as indicated on Drawings.

2.12 UTILITY SHELF WITH MOP/BROOM HOLDERS & RAG HOOKS – STAINLESS STEEL

A. Type as indicated on Drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before starting work notify Resident Engineer in writing of any conflicts detrimental to installation or operation of units.

B. Verify with the Resident Engineer the exact location of accessories.

3.2 INSTALLATION

A. Set work accurately, in alignment and where shown. Items shall be plumb, level, free of rack and twist, and set parallel or perpendicular as required to line and plane of surface.

B. Toggle bolt to steel anchorage plates in frame partitions or hollow masonry. Expansion bolt to concrete or solid masonry.

C. Install accessories in accordance with the manufacturer's printed instructions and ASTM F446.

D. Install accessories plumb and level and securely anchor to substrate.

E. Install accessories in a manner that will permit the accessory to function as designed and allow for servicing as required without hampering or hindering the performance of other devices.

F. Position and install dispensers, and other devices in countertops, clear of drawers, permitting ample clearance below countertop between devices, and ready access for maintenance as needed.

G. Align mirrors, dispensers and other accessories even and level, when installed in battery.

H. Install accessories to prevent striking by other moving, items or interference with accessibility.

3.3 SCHEDULE OF ACCESSORIES

A. Refer to Drawings.

3.4 CLEANING

A. After installation, clean as recommended by the manufacturer and protect from damage until completion of the project.

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SECTION 10 44 13
FIRE EXTINGUISHER AND CABINETS AND AUTOMATED EXTERNAL DEFIBRILLATORS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section covers fire extinguisher cabinets.

B. This section covers automated external defibrillators.

1.2 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Manufacturer's Literature and Data: Fire extinguisher cabinet and automated external defibrillators including installation instruction and rough opening required.

C. LEED Submittals:

1. None required.

1.3 APPLICATION PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.

B. American Society of Testing and Materials (ASTM):

D4802-02.....Poly (Methyl Methacrylate) Acrylic Plastic Sheet

PART 2 - PRODUCTS

2.1 FIRE EXTINGUISHER CABINETS

A. Basis-For Design Guide: J. L. Industries; Ambassador Series (Surface Mounted) (Basement and Mechanical Room) or equivalent.

1. Door and Trim Construction:
   a. Cold-rolled Steel, Series 8113.
   b. White powder coat finish.
   c. Continuous hinge.
   d. Zinc-plated handle and roller catch.
2. Trim Style and Depth: Surface-mount, square edge, 1-3/4 inch face trim on frame and door.
3. TUB: Cold-rolled steel with white powder coat finish.
4. Glazing: Clear acrylic.

B. Basis-For-Design Guide: J. L. Industries; Cosmopolitan Series, (Recessed), (Ground, First and Second Floors) or equivalent.

1. Door and Trim Construction:
   a. No. 6 Satin Stainless Steel, Series 8135.
   b. Continuous hinge.
   c. Zinc-plated handle and roller catch.

2. Trim Style and Depth: Recessed, 3/8 inch flat trim.
3. Tub: Cold-rolled steel with white powder coat finish.
4. Glazing: Clear acrylic.

C. Fabricate door and trim from same material as body of cabinet with all face joints fully welded and ground smooth.
1. Glaze doors with 6 mm (1/4 inch) thick ASTM D4802, clear acrylic sheet, Category B-1, Finish 1.
2. Design doors to open 180 degrees.
3. Provide continuous hinge, pull handle, and adjustable roller catch.

2.2 AUTOMATED EXTERNAL DEFIBRILLATORS

A. Basis-Of-Design Product: J. L. Industries; AED Cabinet 1400 Series or equivalent.
1. Construction: Recessed, ADA compliant, 3-inch stainless steel Series 435, rolled edge trim, plexiglass window front, Commander door-open 9 volt audio alarm.

B. Finish: No. 6 satin stainless steel.

PART 3 - EXECUTION

A. Install fire extinguisher cabinets in prepared openings and secure in accordance with manufacturer's instructions.

B. Install cabinet so that bottom of cabinet is 975 mm (39 inches) above finished floor.

C. Install automated external defibrillators in strict accordance with manufacturer’s instructions.

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